

Features

- ☐ Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (Air)
 $\pm 30\text{kV}$ (Contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 12A (8/20us)
- ☐ Protects one I/O line (bidirectional)
- ☐ Low clamping voltage
- ☐ Working voltages : 3.3V
- ☐ Low leakage current
- ☐ Response Time is < 1 ns
- ☐ ROHS compliant

Description

TS0341TE is an ultra-low capacitance ESD and Surge Protector designed to provide electrostatic discharge (ESD) protection for high-speed data interfaces. TS0341TE is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD), Level 4 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ contact discharge), IEC 61000-4-4 (electrical fast transient - EFT) (40A, 5/50 ns), IEC 61000-4-5 (Surge) (12A, 8/20 μs), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc.

TS0341TE is in an SOD323 package. The combined features of ultra-low capacitance and high ESD robustness make TS0341TE ideal for applications where arrays are not practical. The low clamping voltage of the TS0341TE guarantees a minimum stress on the protected IC.

Applications

- ☐ Cell Phone Handsets and Accessories
- ☐ Microprocessor based equipment
- ☐ Personal Digital Assistants (PDA's)
- ☐ Notebooks, Desktops, and Servers
- ☐ Portable Instrumentation
- ☐ Peripherals
- ☐ USB Interface

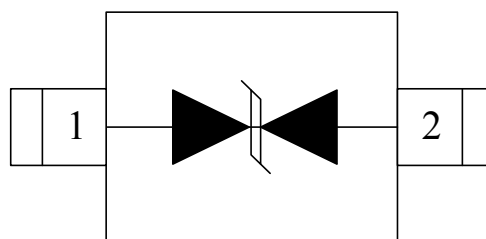
Mechanical Characteristics

- ☐ SOD323 package
- ☐ Flammability Rating: UL 94V-0
- ☐ Packaging: Tape and Reel
- ☐ High temperature soldering guaranteed: 260°C/10s
- ☐ Reel size: 7 inch

Ordering Information

- ☐ Package: SOD323
- ☐ Material: Halogen free
- ☐ Packing: Tape & Reel
- ☐ Quantity per reel: 3,000pcs

Pin Configuration



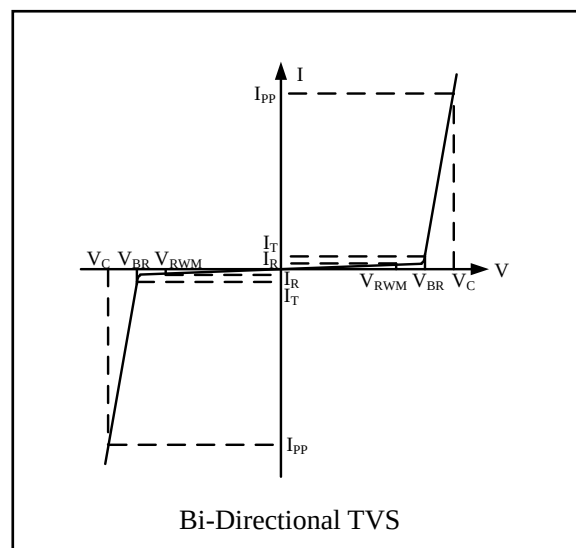
(Top View)

Absolute Maximum Rating

Symbol	Parameter	Value	Units
I_{PP}	Peak Pulse Current (8/20 μ s)	12	A
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	± 30 ± 30	kV
T_{OPT}	Operating Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C
T_{LST}	Lead Soldering Temperature	260	°C

Electrical Characteristics (T = 25°C)

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current for Reverse Breakdown
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance
V_R	Reverse Voltage
f	Small Signal Frequency
I_F	Forward Current
V_F	Forward Voltage @ I_F



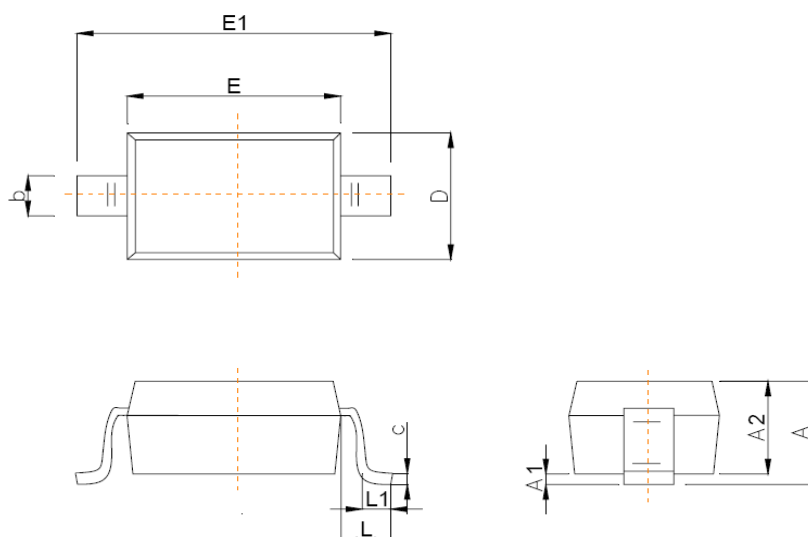
Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}				3.3	V
I_R	$V_{RWM} = 3.3V, T = 25^\circ C$		0.01	0.1	μA
V_{BR}	$I_T = 1mA$	5.0		8.0	V
V_C	$I_{PP} = 1A, t_p = 8/20\mu s$			9.0	V
V_C	$I_{PP} = 12A, t_p = 8/20\mu s$			14.0	V
C_{ESD}	$V_R = 0V, f = 1MHz$		0.8	1.0	pF

Package Outline

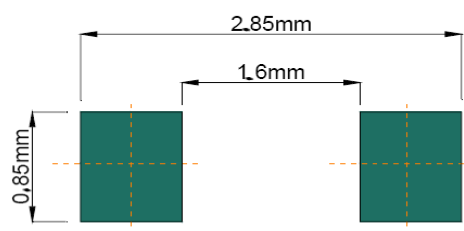
□ SOD323 package



Package Outline Dimensions

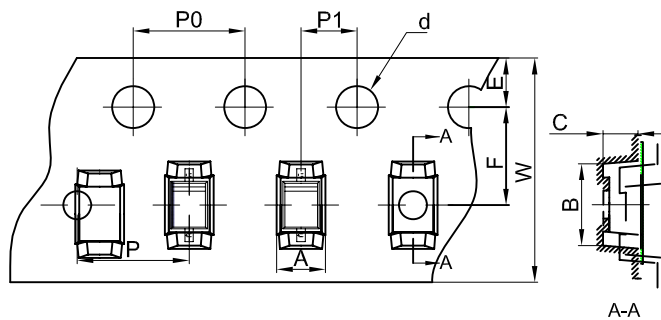


Symbol	Dimensions In Millimeters	
	Min	Max
A		1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°



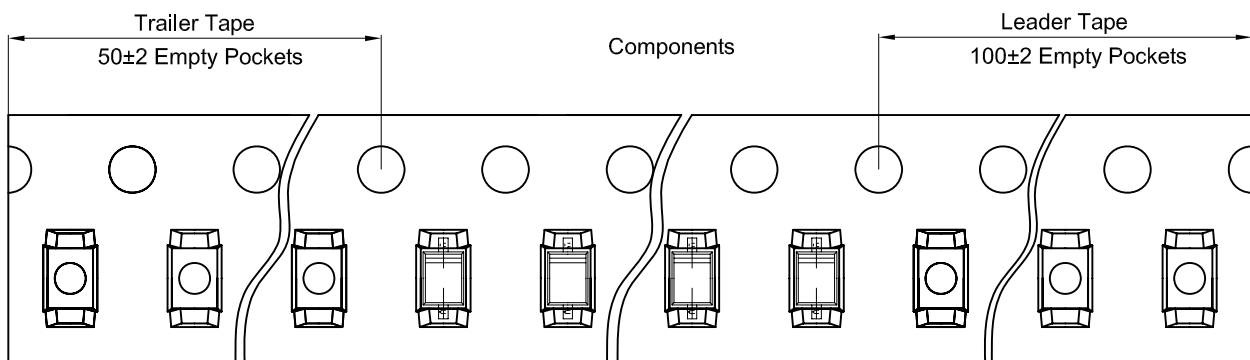
Recommended Pad outline

Tape and Reel Specification

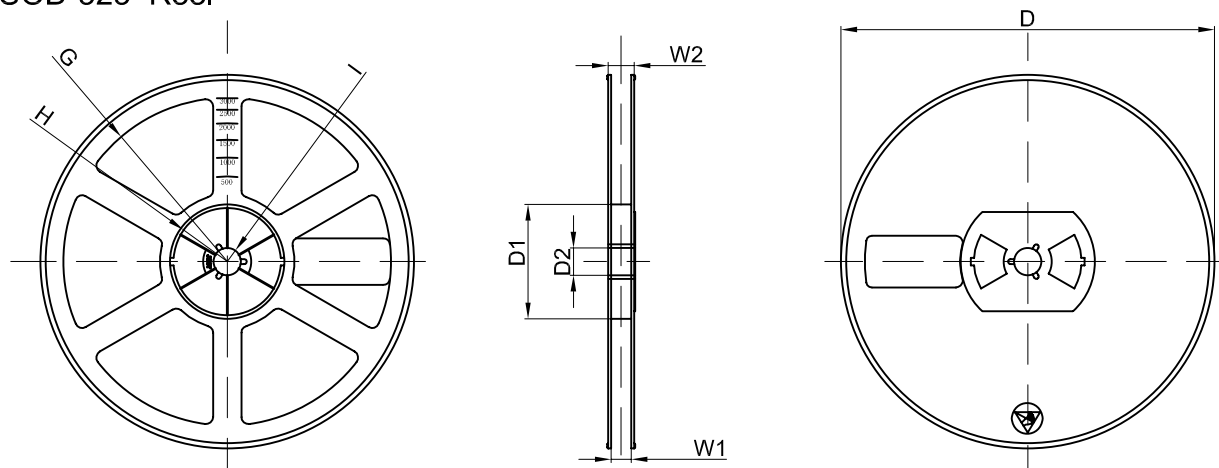


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-323	1.46	2.90	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
(Tolerance)	+/-0.05	+/-0.05	+/-0.05	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+0.3/-0.1

SOD 323 Tape Leader and Trailer



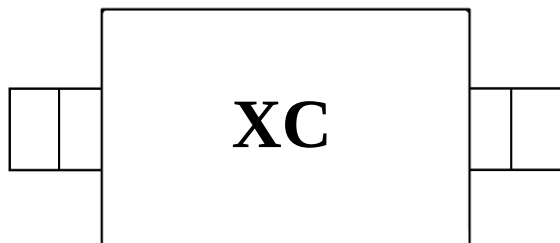
SOD 323 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	

Marking Codes

**Note:**

- (1) "C" is the internal code
- (2) "X" is the internal code

Ordering Information

Part Number	Working Voltage	Quantity Per Reel	Reel Size
TS0341TE	3.3V	3,000	7 Inch